

WHAT IS CLAIMED IS:

1. A plasma processing system for processing a workpiece by using plasma generated in a chamber, comprising:

a light transmissive member disposed in the chamber, the workpiece being disposed inside said light transmissive member; and

light receiving means mounted on the chamber for receiving light inside said light transmissive member,

wherein a state of processing the workpiece is detected by using data detected from light inside said light transmissive member before processing the workpiece and data detected from light inside said light transmissive member generated during processing the workpiece.

2. A plasma processing system for processing a workpiece by using plasma generated in a chamber, comprising:

a light transmissive member disposed in the chamber, the workpiece being disposed inside said light transmissive member; and

light receiving means mounted on the chamber for receiving light inside said light transmissive member,

wherein an operation of the system is controlled by using data detected from light inside said light transmissive member before and after

processing the workpiece.

3. A plasma processing system for processing a workpiece by using plasma generated in a chamber, comprising:

a light transmissive member disposed in the chamber, the workpiece being disposed inside said light transmissive member; and

light receiving means mounted on the chamber for receiving light inside said light transmissive member,

wherein a state of generation of plasma is detected by using data detected from light inside said light transmissive member before processing the workpiece and data detected from light inside said light transmissive member generated during processing the workpiece.

4. A plasma processing system for processing a workpiece by using plasma generated in a chamber, comprising:

a light transmissive member disposed in the chamber, the workpiece being disposed inside said light transmissive member; and

light receiving means mounted on the chamber for receiving light inside said light transmissive member,

wherein generation of plasma is controlled by using data detected from light inside said light transmissive member before and after processing the

workpiece.

5. A plasma processing system according to claim 1, further comprising light emitting means for emitting light having a predetermined output into said light transmissive member, said light emitting means emitting light having the predetermined output before or after processing the workpiece.

6. A plasma processing system according to claim 5, further comprising reflection means mounted between the chamber and said light transmissive member for reflecting light emitted from said light emitting means toward said light receiving means.

7. A plasma processing system according to claim 5, further comprising a mount unit for mounting said light emitting receiving means and light receiving means, said mount unit being mounted on the chamber.

8. A plasma processing method of processing a workpiece by using plasma generated in a chamber, the workpiece being disposed inside a light transmissive member disposed in the chamber, comprising the steps of:

detecting and storing first data of light inside the light transmissive member before processing the workpiece;

detecting second data of light inside the light transmissive member generated during processing the workpiece; and

detecting a state of processing the workpiece

by using the second data added to the stored first data.

9. A plasma processing method of processing a workpiece through reaction with plasma generated in a chamber, the workpiece being disposed inside a light transmissive member disposed in the chamber, comprising the steps of:

detecting and storing first data of light inside the light transmissive member before processing the workpiece;

detecting second data of light inside the light transmissive member generated during processing the workpiece; and

detecting the reaction by using the second data added to the stored first data.

10. A plasma processing method of processing a workpiece by using plasma generated in a chamber, the workpiece being disposed inside a light transmissive member disposed in the chamber, comprising the steps of:

detecting and storing first data of light inside the light transmissive member before processing the workpiece;

detecting second data of light inside the light transmissive member generated after processing the workpiece; and

controlling an operation of the system by using the second data added to the stored first data.

11. A plasma processing method of processing a workpiece through reaction with plasma generated in a chamber, the workpiece being disposed inside a light transmissive member disposed in the chamber, comprising the steps of:

detecting and storing first data of light inside the light transmissive member before processing the workpiece;

detecting second data of light inside the light transmissive member generated after processing the workpiece; and

diagnosing the system by comparing the second data with the stored first data.